Research in evolution and ecology of marine planktonic communities

AUTHOR(S):

Romain, Blanc-Mathieu

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海洋性プランクトン群の進化と生態についての研究

Research in evolution and ecology of marine planktonic communities

Chemical Life Science Laboratory, Institute for Chemical Research, Kyoto University
Blanc-Mathieu Romain

研究成果概要

I have been using the super computer for four different works:

1/ To perform homology search (using diamond) of 116 M unique genes fragment against a reference database made of all known representative amino acid sequences.

2/ To assemble the genome sequence of *Thalassiosira nordenskioeldii* from Pacbio sequence data. This work is done in collaboration with Dr. Akira Kuwata (Tohokku National Fisheries Research Institute, Japan).

3/ To assembled and annotate the genome sequence of 3 recently characterized double-stranded DNA viruses infecting *Prymnesium kappa* (*Haptophyte*). Genome sequences of these 3 giant viruses are expected to help characterized *Megaviridae*: an emerging family of eukaryotic viruses. This work is done in collaboration with Pr. Ruth-Anne Sandaa (Institute of Biology, Bergen University, Norway).

4/ To reconstruct the phylogeny of the PIP5K (Phosphoinositide Kinase) protein family in land plants. The output of this work led to the formulation of a hypothesis regarding the evolution of PIP5K3 in the model species *Arabidopsis thaliana*. Additional computational and experimental work are expected to precise its role and evolutionary history. This is a collaborative work with the laboratory of Pr. Takashi Aoyama (Institute for Chemical Research, Kyoto University, Japan).